

MATERIALS AND STRUCTURE FOR A HIGH RELIABILITY BGA CONNECTION BETWEEN LTCC AND PB BOARDS

ABSTRACT OF THE DISCLOSURE

5 A ceramic circuit structure comprising a plurality of ceramic layers and at least
one electronic component embedded within the plurality of ceramic layers. Within a first
one of the ceramic layers is a via that passes through the ceramic layer. A contact pad is
formed on a surface of the ceramic layer. A barrier cap is formed between the via and the
contact pad. A dielectric ring covers a peripheral portion of the contact pad and an
10 adjacent portion of the dielectric material layer surface immediately surrounding the
contact pad, such that any solder that is applied to the contact does not contact the
peripheral portion of the contact pad or the ceramic material.